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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,056	09/15/2000	Andrew C. Gallagher	80525SHS	2954

1333 7590 07/25/2003

PATENT LEGAL STAFF
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EXAMINER

ROSARIO-VASQUEZ, DENNIS

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 07/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,056

Applicant(s)

GALLAGHER, ANDREW C.

Examiner

Dennis Rosario-Vasquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 16-18 is/are allowed.
- 6) ☒ Claim(s) 4, 10 and 19 is/are rejected.
- 7) ☒ Claim(s) 5-9, 11-15 and 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. This application, filed under former 37 CFR 1.60, lacks formal drawings. The informal drawings filed in this application are acceptable for examination purposes. When the application is allowed, applicant will be required to submit new formal drawings. In unusual circumstances, the formal drawings from the abandoned parent application may be transferred by the grant of a petition under 37 CFR 1.182.

Figures 2 and 6 are not formal drawings.

Specification

The disclosure is objected to because of the following informalities:

2. The sentence of page 10, lines 26, 27 does not clearly identify the angle or angles of gamma.
3. The sentence of page 13, lines 15, 16 does not agree with the clockwise or counter-clock wise orientation of the related succeeding discussion of figures 5A and B.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 4, 10, and 19 are rejected under 35 U.S.C. 102(e) as being unpatentable by Nishihara U.S. Patent 6,226,004 B1.

6. With regard to claim 4, Nishihara teaches a method of detecting an amount of rotation between the vertical axes of a scene and an image of the scene (note the image of a scene is identified as model surface 716 in figure 7 of Nishihara, and 718 and 720 in figure 7 identifies the amount of rotation between the model surface and the vertical axis) comprising:

Detecting a set of vanishing points related to the image (note that a set of vanishing points 510, 520, and 530 are detected as evidenced in figure 5 of Nishihara).

Selecting a set of vanishing points corresponding to a vertical axis of the scene based on predetermined criteria (note the vanishing point 530 in Nishihara correspond to the vertical axis and has been selected as broadly recited in claim 4).

Using the selected vanishing points to detect the rotation of the image (Nishihara at column 5, lines 45-48 states: "...the system computes estimates of...three-dimensional orientation...associated with the detected vanishing points." At column 6, lines 7-13, Nishihara states:" External camera parameters include...a rotational orientation 722...and rotation degrees of freedom 718 and 720. Based on...vanishing point analysis, the system solves for...external camera parameters."

7. With regard to claim 10, the required apparatus for performing the various claimed functions are shown in Nishihara in figures 1,3, and 9.

8. With regard to claim 19, Nishihara clearly teaches the claimed computer readable medium having computer executable instructions at column 3, lines 48-53 ("Computer code for causing the computer to process an image may be stored on a computer usable medium.")

Conclusion

Claims 5-9, 11-15 and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-3 and 16-18 are allowed.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

9. Claim 1 is allowable over the art of record for requiring that a preferable vanishing point location be determined and that an image transform be generated based on a vanishing point location and the preferable vanishing point location. None of the art of record teaches or suggests such a feature within a method as called for in claim 1.

10. Claims 2-3 and 16-18 are allowable for depending from allowable claim 1.

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11. Claims 5 and 11 are allowable over the art of record for requiring that a set of vanishing points corresponding to a vertical axis be selected based on a threshold operation which selects a vanishing point that is greater than a predetermined distance from the center of the image. This feature is neither taught nor suggested by the art of record especially within the environment set forth in the parent claims 4 and 10.

12. Claims 6-9, 12-15, and 20-24 are allowable for variously depending from allowable parent claims 5 and 11.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taylor (U.S. Patent no. 5,967,979) teaches a method of acquiring vanishing points and performing an image transform from the vanishing points to obtain three-dimensional features of an image.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario-Vasquez whose telephone number is 703-305-5431. The examiner can normally be reached Monday thru Friday from 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on 703-305-4706. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9313 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is 703-306-0377.

Dennis Rosario-Vasquez

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July 22, 2003



LEO BOUDREAU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600